



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| | | | | |
|---------------------------------|-------------|----------------------|---------------------|------------------|
| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/500,315 | 06/28/2004 | Shichao Ge | 4582-008 | 9868 |
| 22429 | 7590 | 07/08/2008 | EXAMINER | |
| LOWE HAUPTMAN HAM & BERNER, LLP | | | SEMBER, THOMAS M | |
| 1700 DIAGONAL ROAD | | | ART UNIT | PAPER NUMBER |
| SUITE 300 | | | 2885 | |
| ALEXANDRIA, VA 22314 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 07/08/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|--------------------------------------|------------------------------------|
| Office Action Summary | Application No. 10/500,315 | Applicant(s) GE, SHICHAO |
| | Examiner Thomas M. Sember | Art Unit 2885 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09 April 2008.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,3-5,7-16 and 20-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 9-16 is/are allowed.

6) Claim(s) 1,3-5,7,8 and 20-22 is/are rejected.

7) Claim(s) 23 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/06)
Paper No(s)/Mail Date 04/10/08

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Claim Objections

1. Claims 3 and 5 are objected to because of the following informalities: In claim 3, "a light reflector at front" is idiomatically incorrect. In claim 5, line 1 "the LED chips" lacks a proper antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 7 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hochstein '866 in view of AAPA (Applicant's admitted prior art, particularly figure 1) further in view of English et al '553. Hochstein '866 discloses the claimed invention except for the teaching of a base top surface acts as a light reflective surface and is provided around the base and the base's shank is threaded. Hochstein '866 discloses at least one LED chip 12 directly mounted on a metal base 18 of high heat conductivity. The LED chip 12 is electrically connected to an applied power supply/driving circuit through a circuit board 32 via outgoing LED 12 and the Led chip has a transparent medium layer (epoxy which a glue or adhesive which forms a lens when cured) disposed thereon 26. The circuit board 32 is disposed on the base 18.

The base is metal, see paragraph 32, and has a shank on a bottom surface thereof with form an integrated structure. A heat sink is mechanically and directly connected to the bottom surface of the metal base via the shank. AAPA figure 1 teaches a reflective surface 102 on top of a base 103 for efficiently dispersing light from the LED chip. It would have been obvious to one skilled in the art at the time the invention was made provide a reflective surface at the top of the base of Hochstein '866 as taught by AAPA's figure 1 in order to efficiently disperse light from LED chip of Hochstein '866.

English et al '553 teaches a threaded shank for holding a base 130 to a heat sink 140 (see column 7, line 67 to column 8, lines 1-2).

It would have been obvious to one skilled in the art at the time the invention was modify the shank of Hochstein '866 to be threaded as taught by English et al in order to provide an alternatively effective means for holding the base to the heat sink of Hochstein '866.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hochstein '866 in view of AAPA (Applicant's admitted prior art, particularly figure 1) further in view of English et al '553 as applied in claims 1, 3, 4, 7 and 20-22. Hochstein

'866 in view of AAPA (Applicant's admitted prior art, particularly figure 1) further in view of English et al '553 as applied in claims 1, 3, 4, 7 and 20-22 substantially discloses the claimed invention including an LED chip but does not teach a plurality of LED chips of the same or different color. However, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8. Given that it is well known that an increase in the number of light sources will increase overall light output, it would have been obvious to one having ordinary skill in the art to duplicate the existing light source/LED of Hochstein '866 in order to provide a plurality of LEDs of the same color for increase light output.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hochstein '866 in view of AAPA (Applicant's admitted prior art, particularly figure 1) further in view of English et al '553 as applied in claims 1, 3, 4, 7 and 20-22 further in view of Lowery. Hochstein '866 in view of AAPA (Applicant's admitted prior art, particularly figure 1) further in view of English et al '553 as applied in claims 1, 3, 4, 7 and 20-22 substantially discloses the claimed invention, but does not disclose an LED having a light-converting member between the optical glue and lens. However, LOWERY teaches an LED device utilizing a light-converting fluorescent member (52) for the purpose of converting light (Column 6, Lines 6-32). Further, LOWERY teaches positioning the material between the lens (54). LED (44, Fig. 2). Given the teachings of Hochstein in addition to LOWERY, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify Hochstein and use the material as

taught by LOWERY in order to convert light as desired.

Allowable Subject Matter

3. Claims 9-16 are allowed.
4. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1, 3-5, 7-8 and 20-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Sember whose telephone number is 571-272-2381. The examiner can normally be reached on M-F 9 a.m.- 5.30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas M Sember/
Primary Examiner, Art Unit 2885